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ABSTRACT

This document contains four papers presented at a symposium on performance improvement moderated by Edward Schorer at the 1996 conference of the Academy of Human Resource Development (AHRD) "The Organizational Ecology of Ethical Problems: International Case Studies in the Light of HPT [Human Performance Technology]" (Peter J. Dean, Laurence Barton) examines case studies that examined the effect of ethical behavior in view of HPT and revealed the need to pay more attention to ethics in the international workplace. Sandra M. Kaiser's paper "Assessing Performance in HRD Practices: A Look at Lathan and Saari's Situational Interview" describes the development, application, and validity of situational interviews for purposes of managerial candidate selection in multisite organizations. "Customer Satisfaction and Training Program Quality" (Martin Mulder) reports a study that measured the satisfaction of 1,403 of a sample of 2,174 work organizations with the training provided by various commercial training organizations. "DACUM [Developing a Curriculum], Training, and ISO [International Standards Organization] 9000" (Robert E. Norton) discusses a study examining the duties and tasks that must be performed by DACUM facilitators, the importance of individual tasks to DACUM facilitators, and the difficulty of learning to perform each of the various tasks. Papers contain references. (MN)

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SYMPOSIUM
[28] PERFORMANCE IMPROVEMENT

Chair: Edward Schorer, ASTD

The Organizational Ecology of Ethical Problems: International Case Studies in the Light of HPT

Peter J. Dean, University of Tennesee
Laurence Barton, Motorola, Inc.

Assessing Performance in HRD Practices: A Look at Latham and Saari's Situational Interview

Sandra M. Kaiser, Louisiana State University

Customer Satisfaction and Training Program Quality

Martin Mulder, University of Twente

DACUM, Training, and ISO 9000

Robert E. Norton, Ohio State University

Academy of Human Resource Development
1996 Conference
Minneapolis, MN
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CE 073 509

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

The Organizational Ecology of Ethical Problems: International Case Studies in the Light of HPT.

Peter J. Dean
The University of Tennessee

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This article focuses on case studies that reveal the need for more attention on ethics in the international workplace. The researchers examined the question of organizational ecology and its influence on ethical behavior in light of Human Performance Technology.

Human Performance Technology (HPT) and HRD

The International Society for Performance Improvement (ISPI) has always been the organization where HPT and HRD professional practitioners and professors could converse about the influence the enviornment had on shaping behavior vs. the influence training had on shaping behavior. Trainers in Human Resource Development (HRD) would speak boldly about the influence of well-designed training on changing behavior and HPT professionals would speak boldly about how the work environment had more influence on changing behavior. How does HRD (workforce training and development) and HPT (workplace or organizational ecology of performance improvement) support the need for more attention on ethics in international business?

Emerging Ethical And Decision Making Quagmires In The Pacific Rim Economies

The Greeks and Romans fought corruption among government and commerce leaders. Centuries later, civilization still struggles to define what is right and wrong in global transactions. Despite concerted attempts at economic regionalism and unified trade policies (e.g., NAFTA, European Community) consensus on an ethical framework for most businesses, let alone multinational enterprises, is elusive. This is especially true in the environment of steady growth throughout the Pacific Rim, where ethics is almost universally taught in seminaries and private institutions but rarely in business schools. This approach is having an increasingly negative impact. Well publicized embarrassments about bribes in Indonesia, controversial net fishing techniques at sea, safety devices in a chemical plant in India, and corruption or other scandals can cost a Pacific organization dearly when it later seeks to build a reputation abroad.

This paper outlines a series of recent ethical quagmires which have received notoriety throughout the region. It includes an analysis of how Pacific corporations are seeking to define and redefine an ethical framework for their organization. One co-author, who served as a Fulbright Senior Fellow to Japan in the summer of 1994, offers a series of cases of crisis mismanagement and ethical abuse that generated considerable embarrassment for Pacific employers. The other co-author, who has lived for three years in India and Pakistan as a visiting lecturer, offers insight on a paradigm for ethical management in light of HPT.

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Recent Cases Illustrate XXX

• A branch manager for the Commercial Bank of Korea, Lee Hi-do, committed suicide in November, 1992 when it was revealed that he had diverted 85.7 billion won into his personal accounts. More than half of the theft was from Certificates of Deposit which were in the bank's custody on behalf of a client. The Bank, which has been targeted by employees in other cases of embezzlement and extortion in recent years, was forced to issue a public apology for the incident while assuring depositors that it remained fundamentally sound (Cho, 16).
• In Hong Kong, school headmaster Mong Kam-hong was found guilty by a District Court in November, 1992 of having accepted two bribes worth $150,000 from Longman Group Publishing, a major American publisher, in return for his guaranteeing that Longman books would be used in his school. *The South China Morning Post*, in a major analysis, concluded that "the amounts of money involved and the intricacies of those who choose textbooks for the territory's children suggest it could be an established and widespread problem." (Chan, 23.) Mong Kam-hong was forced to pay a series of fines and is currently serving a two-year jail sentence. Longman has since reorganized its entire marketing group throughout the Pacific Rim, but many school systems in Hong Kong, Japan and Korea have expressed public concern over the incident.
• In Japan, several major ethical embarrassments have caused tremors both in government and industry in recent years: a prime minister resigned in 1993 amidst corruption charges; electronic game manufacturer Nintendo was charged by the U.S. government for price fixing in its computer game products, and officials of Hitachi were indicted by a U.S. grand jury for systematically stealing trade secrets from IBM in 1988. (Barton, *Ethics*, 75)
• The FBI has charged that some operatives of the *yakuza*, Japan's organized-crime network, have channeled as much as $1 billion in laundered Japanese money throughout the U.S. in recent years. The agency says that Japanese "executives" have purchased properties in Hawaii, Nevada and California with funds that were either stolen or generated by drug and prostitution operations. (Yamazaki, 11).
• American academics have charged that their Japanese counterparts are unethical in terms of allowing U.S. students access to Japanese universities. According to *The Los Angeles Times*, the U.S. granted 34,657 five-year student visas to Japanese students wishing to attend American universities in 1992, yet only 1,428 Americans were granted similar visas to study in Japan. "We feel there are real inequities and are beginning to view this as a trade issue," said William Sharp, dean of Temple University's Tokyo campus. "We are at a tremendous competitive disadvantage because few of our students can come here to study." (Watanabe, A6).

Is A Consensus On Ethical Behavior Possible?

For decades, Pacific Rim management theorists and sociologists have tried to define a common set of ethical principles that would be acceptable across national borders despite the incredible dichotomy in cultures, history, languages and work ethic that transcend the region. Several media analysts, notably James Fallows, have argued that *all* Pacific Rim corporations, large or small, must create a framework for ethical conduct because their exposure to risk is increasing at such a frantic pace. With each new factory, export program, training program, signing of a lease and shipment. Fallows claims the ability of the employer to control potential misdeeds by managers and workers is incrementally reduced unless management cares enough to intervene with policies and training that bristles with punitive measures for infractions.

Although Tom Donaldson of the Georgetown University in Washington D.C. has identified Fundamental International Rights (1989) and Tom Dunfee of the Wharton School in Philadelphia has identified some Rule of Thumb Principles of International Business Ethics (1991), a common set of agreed upon ethical principles has yet to emerge. Except for of the notion of individual freedom (Chinese students in Tiannamen Square clutched pictures of the Statue of Liberty when they were murdered by government troops in 1989), the Pacific Rim's economic ascendancy is concurrent with a global culture in which certain values and beliefs generate increasing consensus. International corporate "greening" programs encourage environmental responsibility, and an increasing number of multinational corporations have adopted

and enforced codes of ethical behavior. These include Hyundai, Sony, Samsung, Mitsubishi, and Lucky-Gold Star, to name but a few.

Addressing the Ethical Issues

These four issues, sociocultural environment, stereotyping, setting policy, and the criminal behavior and questionable ethics surrounding technology, can be addressed through the work of business ethics researchers and ethicists.

Tom Donaldson (1989) has identified what he refers to as international rights. Where these rights are respected, the sociocultural environment can sustain long term international business relationships.

1) The Right to Freedom of Physical Movement.
2) The Right to Ownership of Property.
3) The Right to Freedom from Torture.
4) The Right to a Fair Trail.
5) The Right to Nondiscriminatory Treatment (Freedom from discrimination on the basis of such characteristics as race or sex).
6) The Right to Physical Security.
7) The Right to Freedom of Speech and Association.
8) The Right to Minimal Education.
9) The Right to Political Participation.
10) The Right to Subsistence.

Leon Sullivan, (In Beauchamp and Bowie, 1993) writing on doing business in South Africa, established a set of principles that would help businesses and their employees avoid some of the stereotypes that negatively influence the outcomes of business transactions or inflict harm on the members of the transaction. These principles include:

1) Nonsegregation of Different Races or Ethnic Groups.
2) Equal and Fair Employment Practices Instituted for All Employees.
3) All Employees Doing Equal or Comparable Work for the Same Period of Time Receive Equal Pay.
4) Members of All Racial or Ethnic Groups Should Be Trained for Supervisory, Administrative Technical and Clerical Jobs.
5) Management Jobs Should Be Shared by Members of All Racial and Ethnic Groups.
6) Quality of Employees' Lives Outside the Workplace Should Be Improved.

Tom Dunfee (1991) suggests principles of international business that imply unwritten, social contracts among the members of the international business community. These principles should guide the establishment of policy related to doing business in the global market place. Although Dunfee does acknowledge that some individuals and organizations will choose to ignore these principles, he believes that following them can maximize the efficiency of international business by reducing transaction costs in the long run, in other words, that good ethics is good business. Dunfee's principles include:

1) Honor Confidentiality. Where failure to honor confidentiality becomes the norm, firms incur substantial costs in guarding against unethical disclosures of new designs, marketing plans, research findings, business deals or mergers.
2) Avoid Actual Conflicts of Interest. Conflicts of interest occur intentionally when parties of a transaction act to further their personal interests or fail in their duty to the other parties. Frequently parties in a transaction find themselves confronted with a potential conflict of interest not of their making. Several steps can prevent the situation from escalating:
   a) full disclosure to all parties involved
   b) certification of the fairness of the transaction by a truly independent party
   c) complete deferral of the decision to someone else who would be perceived as, and is totally independent. (Dunfee, 1991)

3) Act in Good Faith. Honesty in negotiations and fairness are increasingly expected in the global marketplace. Dunfee asserts that business people are showing a willingness to take their business elsewhere when they are not treated in good faith.
4) Exercise Due Care. This principle relates to individuals being held accountable for the way they conduct business, and the standards at which they fulfill job expectation.Other of Dunfee's principles are related to broader social.
5) Respect the Liberty and Rights of Others.
6) Respect for Human Well-Being.

Dunfee's last principle relates to legal issues.

7) Willingly Comply with Law.

Ethical decision making models have been designed to guide decision makers in business and industry through ethical issues. Their purpose is to ". . . present ethical systems and methods of reasoning that deepen one's understanding of a situation, identify relevant moral concerns, and provide a means of evaluating actions and policies" (Baron, 1991, p. 803.).

There are many different models in the literature. Most, however, contain the same basic processes represented in Werhane's (1992) seven-step process for ethical decision making. The steps of the process include:

1) Identify the Relevant Facts. Key factors that shape the situation and influence ethical issues must be identified.
2) Define the Ethical Issues. All issues related to the situation must be identified and the ethical issues separated from the non-ethical issues. Issues may be identified at all levels of the organization.
3) Identify the Primary Stakeholders. Those individuals and groups involved in the situation that will be affected by a decision are the primary stakeholders. The impact of a decision on them must be considered
4) Determine the Possible Alternatives. All alternative interventions need to be identified.
5) List the Ethical Implications of Each of the Alternatives. Each alternative needs to be evaluated according to the impact on the stakeholders and the three ethical theories. The following decision tree can guide this evaluation.
6) List the practical constraints. Any factors that might limit the implementation of alternatives or render it too difficult or risky must be identified.
7) Determine what actions should be taken. After weighing the information provided in steps one through six, an alternative needs to be selected and an implementation strategy identified.

Ethics and the Performer

Put an ethical performer in an environment that doesn't support ethical performance and the ethics in performance will begin to slip. Research has shown that the majority of employees are committed to standards of high ethics (Aresty Institute of Executive Education, 1988), but if the environment (workpace ecology) doesn't support ethical decision-making then employees are less confident about making the right decision. Managers are uniquely positioned to engineer the work environment and need the knowledge of HPT to create an organizational ecology that supports ethical performance.

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Assessing Performance In HRD Practices: A Look At Latham And Saari's Situational Interview

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The present study describes the development and application of the Situational Interview for the purpose of managerial candidate selection in a multi-site organization. The procedure is based on job-relevant behaviors which are incorporated into a series of interview questions, each provided with behaviorally anchored responses, enabling more objective judgments. The interview process is both standardized and job-related, characteristics reported in the literature as important to the legal court system. Results suggest that the process is content valid, and interrater reliability and user satisfaction are reported. Applications of the process in Human Resource Development are suggested.

Human Resource Development professionals are involved with training, education, employee-development, organization development, and career development in the quest for improved organizational effectiveness. These processes require learning and change (Rothwell & Sredl, 1992). Assessments and evaluations are essential tools in order to measure the needs, the progress, and the success in these learning and change programs. It is all important that any assessment tool be reliable and valid. The situational interview (Latham & Saari, 1980; 1984) has been used in assessing potential performance for selection purposes and it has been shown to be valid for this utilization. The situational interview's successful use in assessing potential performance makes it a potential candidate for broader application in HRD processes such as needs assessment for training program development, selection for training programs, evaluation off learning and training, and performance diagnosis and analysis.

Review of the Situational Interview and Selection

The selection of human resources is a primary task in an organization. Schmitt and Noe (1986) report that the goal of employee selection is the prediction of employee performance. This desired outcome is traditionally important, but would appear to be a fundamental objective in a performance based organizational competing in a rapidly changing global market. While many different selection tools are utilized, the selection interview remains the most frequently used method despite findings of low reliability and validity (Latham & Saari, 1984; Latham et al, 1980; Harris, 1989). However, the literature suggests findings of increased validities in interview selection procedures using a situational or structured interview format (Schmitt & Noe, 1986; Latham et al, 1980).

The situational interview as developed by Latham, Saari, Pursell and Campion (1980) is grounded in Locke's (1968) goal-setting theory. It is based on the hypothesis that

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intentions are good predictors of behavior. It is a standardized interview process which poses a series of hypothetical work situations to the interviewee and asks how he/she would respond in each situation.

The items are job relevant and based on job analysis. Arvey and Campion (1982) suggest the importance of basing an interview's content on a job analysis for the purpose of potentially increasing the validity and reliability. In order to standardize the process the same items are presented to every job candidate. Each item is accompanied with behaviorally anchored responses to be used in rating the interviewees' responses. These benchmarks are developed by job experts for the position framed by the interview.

The job-relatedness and the standardized format are important in developing a selection device which is more legally defensible. Campion, Pursell and Brown (1988) report that both the Uniform Guidelines and the Validation Procedures advocate the grounding of a selection device on the results of job analysis. The same researchers suggest that situational questions which provide sample situations, may provide content and face validity, and may show criterion-related validity.

Researchers sometimes present ideas for improving Human Resource practices which have limited applicability in practice due to time and/or cost deterrences. An examination of the Situational Interview format as prescribed in the literature by Latham and Saari suggests that the development of the interview program is straightforward and feasible.

Development and Validation of a Situational Interview Format

A study was undertaken to develop a tool to evaluate performance potential, and its intended use was in a selection situation by a large multi-site retail business organization. The purpose of the selection device was to screen candidates for a six month managerial training program which would lead to placement in management positions. The device was to be used in college recruiting and interviewing which accounts for the majority of the personnel selection. It was also to be used for walk-in candidates who typically have industry experience.

An examination of the current organizational interview procedure revealed that the process was only partially standardized which allowed for increased subjective judgments, and that it was not job related. A joint decision was made with the organization's Training and Development department and organizational interviewers to develop a situational interview program. The following is a description of that process.

The development of the interview format closely followed the procedure as presented by Latham, Saari, Pursell and Campion (1980). The foundation for the procedure is a job analysis. This was undertaken through the use of personal interviews with current site general managers and upper level corporate managers. As job experts, these managers were asked to describe the behaviors, skills, abilities, and characteristics of both ideal (good) and poor managers. The behavioral descriptions generated were then grouped by similarity into classifications by graduate students in an Industrial/Organizational psychology program. This process resulted in six dimensions designated as: Management of Policy, Management of Employees, Personal Characteristics, Employee Relations, Public Relations, and Job Involvement.

Management of Policy refers to the ability to follow instructions, organizational procedures, and the directives of supervisors. Management of Employees relates to the ability to treat all employees impartially, to delegate authority equally, and to make objective decisions. Employee relations includes the ability to interact with employees consistently, to treat employees with respect, and to listen and respond to employees' suggestions and comments. Public relations pertains to the ability to interact with customers in a professional, responsible, and courteous manner. Job involvement consists of the degree to

which an individual identifies with and cares about his or her job.

The dimensions and the included behaviors were next distributed to a second group of manager-job experts who were asked to evaluate the groupings and to make changes and additions which they thought important. The six dimensions were rated as representative of the managers' positions. Observations made of the current interview process revealed that few, if any questions were being asked which directly tapped these six managerial dimensions.

Situational questions were developed based on the job information provided by managers. Anchors, which serve as illustrative examples of above-average, average, and below-average responses, were developed utilizing the experience of the organizational interviewers who all had been site managers. The questions were presented to a panel in order to determine if the items were understandable. Vague or confusing terms were changed based on suggestions.

In a typical situational interview format each question presents a hypothetical but realistic job situation. The questions are developed using different types of hypothetical jobs and situations which can be responded to by an interviewee without requiring prior training. The candidate responds by explaining what he or she would do in each situation given. Each response is evaluated on a scale from 5 through 1. Each question is accompanied with a set of illustrative anchors which are examples of above-average, average, and below-average responses (see Exhibit 1: non-proprietary parallel item). The anchors are to be used by the interviewers as guidelines in judging the quality of the response given by the candidate to a particular question.

EXHIBIT 1
Illustration of a Typical Situational Interview Question and Anchors

Question: You are the manager of a hardware store. A customer who had purchased a gallon container of customized color-mixed paint approaches you. In a loud voice he complains that the color was not to his liking and that it was overpriced. You notice that the gallon paint can is almost empty. What would you do in this situation?

Anchors:

(5) Apologize. Offer to replace the gallon can of paint or offer a refund. Be receptive to the customer's comments.

(4)

(3) Be receptive to customer's comments, but do not offer a replacement or refund. Explain the costs of custom mixing paint if appropriate to situation.

(2)

(1) Tell customer that price is appropriate. Point out that the paint had been almost completely used, and therefore assume that it must have been acceptable. Take no other action (do not offer replacement).

In this example an above-average response indicates the philosophy that the customer is always right, with the manager taking responsibility for the customer's dissatisfaction. An average response indicates that the manager is attentive and courteous, but instead of accepting responsibility he offers justifications. A below-average response indicates polite detachment on the part of the manager.

In the next stage, a series of mock interviews were conducted to test the developed items. Two sample groups of randomly selected interviewees were used. The first group consisted of juniors and seniors in a university Business Administration program who were representative of the typical candidate which the organization interviews during college

recruitment. The second group consisted of individuals who were current members of the management training program and who were chosen as a comparison group because of their status as current managerial candidates. The interviews were conducted by graduate students and were tape recorded. At the conclusion of each individual interview session the subjects were asked open-ended questions in order to obtain feedback about the interview format. The recorded interviews were then submitted to each of the organization's interviewers who rated each interview using the behaviorally anchored rating scale.

It is important that interviewers are trained and that they understand the interview process. Therefore a brief manual was developed for this purpose.

Results

The organizational interviewers' evaluations were statistically analyzed using repeated measures analysis of variance. Results indicated that the items were able to significantly differentiate the quality of responses given by the two groups of interviewees for two of the three interviewers. A subsequent conversation with the third interviewer revealed that the interviewer had a problem understanding a few of the tape-recorded items and admitted becoming impatient. Intraclass correlation indicated there was interrater agreement ($r = .81$) in the evaluation of the interviewees by two of the judges, that is, they were rating the same individual in an equivalent manner. The third rater, who admitted becoming impatient with some of the recorded interviews, had a lower interrater agreement with the other two judges ($r = .49$). Ten items were identified as being the most effective of eighteen items tested. All dimensions except Personal Characteristics were represented by the ten items selected for the final interview format.

Feedback from the subjects was positive about the situational interview format. The interviewees were comfortable with the items, understood what was being asked and needed infrequent repetition of an item. They liked the fact that the items related to the job in question and felt that this face validity affected their motivation to respond. Nine-five percent of the interviewees reported that the questions were realistic. In addition to the experts who provided information for the dimension and item development, the subject group consisting of the current managerial candidates reported that the interview items validly reflected the content of their positions.

Limitations

The limitations of the study include the small test sample size: twenty interviewees were used in the mock interviews and the organization has only three interviewers who are responsible for all interviews. The impatience on the part of one of the organizational interviewers appears to have affected his evaluations of the recorded interviews. It does, however, emphasize the importance of rater attentiveness during the interview process. In addition, the interview questions were developed based on the job analysis in one organization for which the format was developed. However, the development process demonstrated that a recommendation founded in the research literature was able to be successfully developed in a straight forward manner in order to enhance the Human Resource responsibility of employee selection.

Implications for Human Resource Development Practices

The interview is the most commonly used tool for information gathering purposes by individuals and organizations (Zemke & Kramlinger, 1982). This trend continues despite the poor reliability and validity reports for interviews (Latham & Saari, 1984; Latham et al, 1980; Harris, 1989). However, as stated previously, the situational interview is reported to increase the reliability and validity for the technique (Schmitt & Noe, 1986; Latham & Saari, 1984; Latham et al, 1980). Most organizations rely heavily on the interview for selection purposes, but the potential for use is broader than selection. The situational interview has conceivable applications in HRD practices.

The situational interview could effectively be used in needs assessment at the individual level to determine training needs. The individual's responses to interview items could effectively be used to reveal gaps between the determined ideal performance and job knowledge, and that of the individual. The specific-area gaps could be used in determining training needs. The situational interview could also be used to evaluate transfer of training. This could be done alone or in combination with the more traditional transfer of training survey. The results would provide information to serve as the basis for problem solving sessions, related to both the individual's assimilation of the intended skills and knowledge, and to training program inadequacies. While interviews are currently established as a technique for program evaluations, the situational interview might improve the reliability and the validity when used for this purpose. Philips (1991) suggests that some individuals may be willing to discuss evaluations with a skillful interviewer, while the same information would not be revealed in a questionnaire. The behaviorally anchored situational interview could be used in conjunction with other evaluation instruments to obtain information which is more than affective in nature. The situational interview's foundation is a job analysis. The items are structurally based on this information, and the value for assessment and evaluation uses is the recycling of the job relevant feedback into the performance system by HRD professionals to improve practices affecting organizational performance.

Summary

The goal of this paper was to provide information related to the development and application of the Situational Interview. The basic value of any information gathering technique is the reliability and validity of the information provided by that tool. The situational interview has been reported to increase these indices when used for selection purposes. In addition, the technique appears to have other applications important to Human Resource Development as suggested.

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Many authors in the field of quality management stress the importance of customer satisfaction. Meeting customer requirements is conceived of as an important indicator of quality of a product or a service (Juran, 1992). Scholars in the field of HRD however, stress the importance of achieving performance improvement (Swanson, 1994). They contend that HRD interventions should have impact on the organisation, or effects on business results. The indicators of training effects that are meant here, are defined on a higher system level. This means that reactions of recipients of training services are perceived as being less important than improvement of expertise, transfer of expertise to the job, and attaining business process targets.

Commercial training organisations need to provide their services in such a way that their clients will be satisfied (Zeithaml, Parasuraman and Berry, 1990). Satisfied clients are in fact an essential condition for the continuity of these organisations (Hayes, 1992; Juran, 1992). If many clients of an organisation would be dissatisfied, that organisation would be out of business very soon. The clients would simply buy their services from a competitor (Thomassen, In 't Veld and Winthorst, 1994). Measuring customer satisfaction therefore is very important for training organisations, especially when these organisations are big, and the management of the training organisations does not know all projects and clients. Measuring customer satisfaction is part of several total quality management approaches. For instance, within the method called 'Towards continuous quality improvement' (CEDEO, 1993), 'satisfied clients' is one of the nine components for quality evaluation The weight of this component in the whole model is twenty per cent. During the last decades, measurement of satisfaction with training events is critiqued. Various authors have developed strategies to evaluate the effectiveness of training programs (Brinkerhoff, 1987; Bramley, 1991; Basarab & Root, 1992). The critiques are justified, as in training projects impact on the higher levels Kirkpatrick distinguished already in the fifties (Kirkpatrick, 1994) ,or performance improvement (Rummeler and Brache, 1990), is the ultimate goal. Satisfaction of the recipients of training is not enough. Learning results, changes in the work behavior, and organisational improvement need to be achieved. And this needs to lead to improvement of the performance of individuals, teams, and organisations (Swanson, 1994). In this study, customer satisfaction of training programs is defined as the degree to which clients of training organisations are satisfied with the performance of the training organisations in three stages of the training process: the before-training, the during-training, and the after-training stage. The training programs that are meant here are offered by training vendors in the field of management, communication, and employee participation. They are mainly group-oriented instructor-led customised training programs. But there are also individual training programs included in the study. The individual training programs are aimed at language training and individual coaching mainly.

The Department of Curriculum of the University of Twente has conducted a project in which the customer satisfaction about training projects has been measured. This project is conducted for the Dutch Association of Training Organisations, which comprised about 45 independent commercial training organisations. These organisations vary in size and number of customers. Small organisations employ only some trainers/consultants and have a limited number of clients. Big organisations employ about 150-200 trainers/consultants, and have hundreds of clients for the training projects mentioned. The project was aimed at measuring the customer satisfaction with training projects, in which the customer

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requirements were the focus of the whole training process. The total number of these projects exceeds 6,000 per annum, and about 100,000 trainees are enrolled in these projects. The purpose of this project was to improve the system of customer satisfaction research that was in operation, and to integrate impact measurement in the system under the constraints of a limited budget and full-scale application of the system.

The results of the evaluations, which took place during 1993 and 1994, were reported to the training organisations. These organisations use the results for internal quality management. Some of the organisations use the data for bench-marking purposes (Camp, 1989). The association uses the system as a whole for quality assurance.

Research Question

As has been mentioned above, there was only a limited budget for conducting the evaluations, and the intention was to measure the customer satisfaction on a large scale, which means that the research instrument and procedure needed to be as efficient as possible. On the other hand we thought it was necessary to include a component of impact measurement in the instrument. This was a real challenge, as dedicated impact measurement necessitates criterion-referenced measurement, which under the given constraints was impossible to include in the evaluation system. Therefore a straightforward set of questions was included in the research instrument on the objectives of the project, the responsibilities of reaching these objectives, the level to which the objectives were reached, and the attribution of results to the training organisation (the results question will be elaborated in the next section). One can ask whether this additional component has added value for the evaluation system, or whether mere customer satisfaction research would yield enough information on training project quality. Based on theoretical insights we think that impact is an important characteristic of training project quality, and that satisfaction with the training process is not enough to warrant this impact. Therefore, the research question in this study is: is satisfaction about training projects an indicator for the impact of the training projects? If this would be the case, standardised impact measurement could be left out of the evaluation system, and customer satisfaction data about the training project would be sufficient. This would make the evaluation system less complicated, more easy to implement, and therefore cheaper. We, however, expect that customer satisfaction is an insufficient indicator of training impact, and that impact research needs to be integrated in customer satisfaction evaluation.

Methodology

In this section we will describe the methodology used in this study. First of all we will describe the persons that participated in the study, next the training programs that are evaluated, than the procedures, and finally the reliability of the data.

Participants The participants in the study are customers of training organisations. They contract the training organisations, specify the training needs, and co-ordinate the training project within the client organisation. In some instances customers are also participating in training projects. In all cases they are the persons who are best informed about the whole training project, and who are in the best position to answer questions about the training projects. About a quarter of the customers hold line positions in the client organisations (as director or line manager), and about three quarters of them are staff employees (in human resource management and development departments). The participants were asked to cooperate in the study on a voluntary basis. The training organisations expressed the importance of the study and stimulated their clients to participate.

Training Programs About two thirds of the training programs were in the field of management and communication, 15% in the field of commerce, 9% in languages, and 7%

in employee participation; 5% of them were in marketing, engineering, and human resource development together, and 17% of the projects could not be categorised in one of these groups. The total amount of percentages exceeds 100%, as the customers could categorise a project in more than one group. Most of the projects have been carried out once (51%), 21% were carried out twice, 7% trice, and 13% more often; of 7% of the projects is was not known how many times they were carried out. The average number of days the projects lasted was 6, and the average number of participants per project was 23.

Research Instrument A written questionnaire has been developed. For the part on satisfaction with various factors of the training projects, the questionnaire includes a selection of indicators that are common place in the literature on human resource development (Andrews and Goodson, 1980; Romiszowski, 1981; Goldstein, 1986; Camp, Blanchard and Huszczo, 1986; Brinkerhoff, 1987; Swanson, 1994; Rothwell and Kazanas, 1994).

The indicators of customer satisfaction are divided in the three stages of training projects that have been mentioned before. The indicators, and their meaning in the training process, are the following:

Stage I: Before Training

Target group. The right persons need to be selected for participating in the training program at the right time, and this target group needs to be prepared for the training program. The participants are the recipients of the training program.

Needs. The training program has to be focused on the learning needs of the target group. These needs can be specified in terms of types of knowledge, skills, and attitudes (KSA's). The KSA's need to be linked to the performance targets and the performance requirements of the target group.

Design. The design of the program needs to be aligned to the learning needs on the one hand and the contextual constraints on the other hand (Romiszowski, 1981). The design of the program comprises statements and specifications about the objectives of the training program (why are we organising this program? what do we expect of it? what are the results we want from this program?), the content of the program (what is the program about? what problems, topics, issues will be touched upon?), the organisation of the program (what needs to be done? when? where? how? with what? with whom?), and the evaluation of the program (how do we measure the results? how good have the results to be?). These four components of the program design need to be coherent.

Stage II: Training Implementation

Materials. All materials such as course descriptions, instructional materials, instructional media, and trainer's guides, should be linked to the design of the program. Furthermore, they should be appropriate for the target group, and meet the needs of the learners.

Trainers. The trainers or instructors should focus on the needs of the target group, and they should create learning processes that are coherent with the program design. They need expertise that is required to teach the given course.

Program time. This is one of the most important organisational characteristics of training programs, as it determines the amount of time the target group needs to devote to the program. This learning time is one of the major cost factors of training programs.

Stage III: After Training

Evaluation. The evaluation is an integrated part of any systematic training effort. Without a sound evaluation of the results, it is very difficult to get valid feedback to the stakeholders. As such it is an essential part of any in-company training program, though profound evaluation of effects of training programs is more often the exception than the rule.

Coaching of usage. When employees have acquired new skills, knowledge, and/or attitudes, it is essential that they use these on the work-site. All too often effective usage is disrupted by destructive learning processes that occur during re-entry at the work-site. to prevent this from happening, coaching is helpful to facilitate transfer of learning (Broad & Newstrom, 1992) to short and medium term job performance.

Final report/meeting. The training organisation wants to inform the client organisation about the results of the training program. They also want to share the more and less positive experiences the persons involved had with this program. It is a reflection about the strong and weak points of the program, and in a final meeting these reflections can be exchanged. Furthermore, the parties involved can make arrangements for follow-up activities.

A five-point scale is used to measure the extent to which the clients of training programs were satisfied with these indicators.

For the part on the results of the training projects, one question was included in the questionnaire. This question is based on the work of Kirkpatrick (1994), and reflects results measurement on level 2, 3 and 4. The question is: 'To what degree are the objectives of the training project achieved?' The respondent than has to answer three items:

a. attainment of learning results;

b. improvement of job performance in work situations;

c. support of organisational change.

The answering categories are: not applicable, not yet known, not at all, about a quarter, about a half, about three quarters, and completely.

Procedures For the purpose of this study a sample is drawn from a population of 10,144 projects. The sample size was 2,174, and the response group size was 1,403, which is 65% of the sample.

The customer of the selected projects received a printed questionnaire with the request to complete the questionnaire to prepare a telephone interview by the data collection staff members. A panel of research assistants called the customers. A standardised text was provided to explain the question and answering categories in the questionnaire, if that was needed. In some cases the interview was conducted, but in most cases the customers returned the completed questionnaire by post.

Correlation analysis is performed to show the relationships between satisfaction on the training projects, and the impact of the projects. Subsequently a selection is made of the projects. Based on the question as to the importance of the project objectives (concerning learning results, job performance, and organisational change) and the question as to whether agreements were made for the training project factors, three groups were composed. These groups of training programs are predominantly aimed at achieving learning results, changes in job performance, and organisational change respectively. For these projects the relationships between satisfaction and impact are tested separately, with a correlation analysis. A preliminary Lisrel analysis is performed to evaluate the latent structure of the variables that are distinguished in the study.

Reliability. Earlier research was conducted to study the reliability of the data (Mulder, Van Ginkel and Nijhof, 1994). In that study three reliability tests were performed: a non-response analysis, a test-retest analysis and a inter-rater analysis. The non-response analysis showed a maximum difference between respondents and non-respondents of .33 on a 10-point scale of total satisfaction with the project. The maximum difference scores on this scale for test and retest scores is .27, and for first and second raters .57. We concluded that the reliability of the data was satisfying.

Results

Pearson correlation coefficients are computed for the relationships between the results of the training projects (learning results, change in work behavior, and support of organisational change), and the satisfaction about the training project factors. The results show that all correlation coefficients are statistically significant. The mean values of the correlation coefficients for 'learning results', 'work behavior', and 'organisational change', are .3267, .2244, and .1970 respectively. All are less than .40, and Phillips (1991) contends that such values are low.

The results of the preceding analysis are independent of objectives at which the projects are aimed, and agreements that have been made about the training project factors between the training and the client organisation.

Questions on these issues are included in the questionnaire, however, and data on both variables is available. The cases are grouped according to their focus: achieving learning results, changed work behavior or support for organisational change.

Table 1. Correlation Coefficients between Results of Training Projects by Training Program Factors by Groups of Training Projects that are aimed at achieving Learning Results (Group 1), Change in Work Behavior (Group 2), and Support of Organisational Change (Group 3)

	Group 1 *Learning results*	*Group 2* *Work Behavior*	*Group 3* *Organisational Change*
Target group	.2297 (158) P=.004	.1055 (181) P=.158	.2851 (105) P=.003
Needs analysis	.3526 (182) P=.000	.3202 (196) P=.000	.3109 (112) P=.001
Design	.3356 (174) P=.000	.2609 (216) P=.000	.2435 (113) P=.009
Materials	.1623 (168) P=.036	.2227 (190) P=.002	.0948 (103) P=.341
Trainers	.3383 (177) P=.000	.3348 (217) P=.000	.2351 (113) P=0.12
Program time	.3222 (202) P=.000	.2468 (229) P=.000	.1414 (118) P=.127
Evaluation	.3207 (149) P=.000	.4116 (188) P=.000	.1481 (102) P=.137
Coaching of usage	.2164 (69) P=.074	.3204 (84) P=.003	.2064 (61) P=.110
Final report	.2882 (134) P=.001	.3419 (158) P=.000	.2339 (82) P=.034
$Mean_R$	.2851	.2850	.2110

As to the selection of projects with respect to agreements made between the partner organisations, those cases were selected for which the respondents stated that agreements were made about the factors of the training projects (the nine factors in the before-during-after the training stages).

As to the grouping of projects with respect to their focus on learning results (LR), changed work behaviour (WB), and support of organisational change (OC), the following grouping rules were applied:

- group LR: ((goal LR GE 4) and ((missing (goal WB) or (goal WB LE 3)) and (missing (goal OC) or (goal OC LE 3))).
- group WB: (goal LR GE 4) and (goal WB BE 4) and (missing (goal OC) or goal OC LE 3))).
- group OC: (goal LR GE 4) and (goal WB GE 4) and (goal OC GE 4)

In Table I, the correlation coefficients (Pearson) between the results of the training projects (learning results, change in work behavior, and support of organisational change) and the satisfaction about the training project factors are depicted. The column correlation coefficients are values for the three categories of project results, the row correlation coefficients are values for the satisfaction on training project factors. The first three factors (target group, needs analysis, design) pertain to the before-the-training stage, the second three (materials, trainers, program time) to the during-the-training stage, and the third three (evaluation, coaching of usage, final report) to the after-the-training stage. The bottom row depicts the mean correlation coefficients for the columns. The computation of the coefficients is done independently for each pair of variables. Listwise computation would lead to a significant decrease of cases. For each training project factor the value of the correlation coefficient is printed on the first line, the number of cases (training projects) on the second, and the probability level on the third.

Many relationships are statistically significant. And again, the values of the correlation coefficients are weak. The average correlation between the groups and the training project factors are more homogeneous than for all projects together. But the trend is the same: the average correlation between the learning results and the training project factors on the one hand, is higher than the average correlation between the 'organisational results' and the training project factors on the other hand. The average correlation between the 'work behavior' and the training project factors lies in between both others.

The conclusion therefore is that satisfaction with training project factors is something different than project results. And the satisfaction measures are no good indicator for that achievement of project results. This conclusion underlines the necessity of maintaining the measurement of results as a component of the whole evaluation system. Measurement of project results, namely, does provide different information than measurement of project satisfaction. So the results call for a combination of both the marketing aimed measurement of customers satisfaction on the one hand, and the performance aimed measurement of results on the other hand. This conclusion is strongest for the results about 'organisational change', and relatively less for 'work behaviour', and least for 'learning results', but these are only gradual differences. The main conclusions remains that based on the magnitude of the correlation coefficients, project satisfaction is a limited indicator for project results.

In this paper we have reported on data that have proven to be reliable. The research project will continue during the year 1996, and 1997. Along the 'regular' collection of data with the standardised research procedure and instrument, we want to conduct a few in-depth studies to test the validity of the data.

First of all, for a selected group of projects, training organisations will be asked to provide evaluation data. These data will be contrasted with the data provided by the client organisations.

Secondly, the sources of information on which respondents base their answers on the questions in the inventory will be evaluated. These sources will vary as to the rigor with which training projects are evaluated. We expect that some respondents have based their answers on subjective experiences with the projects, whereas others will have based them on internal performance evaluation data.

Thirdly, the participation of the respondents in the total training project will be examined. Again, this may show considerable variation. Some respondents may be the

contractor and final responsible officer for the project. Others may be staff personnel, and still others may even participate in the training itself. These different participation levels may lead to different perspectives on the project, and at least a different level of depth of information about the project's characteristics and success.

Fourthly, the standards of satisfaction and results orientation of the respondents will be evaluated. These standards usually vary (De Ruyter, 1994). Certain training organisations state that because of their quality training programs, but also because of the educational and functional level of their clientele, respondents are more critical than others. The bias this is causing will be examined.

Fifthly, in the customer satisfaction research system that is employed in this study, measurement of the impact of the training programmes is standardised. It would be better to use a criterion oriented (Shrock and Coscarelli, 1998) performance assessment system. This, however, requires customised questionnaires, including performance objectives that pertain to the content of the projects. It would also be preferable to include hard data in the evaluation system were possible. This approach is being tested in an effectiveness evaluation study currently, but it appears that this approach is much more time consuming, and therefore more costly. In the validity test some projects will be evaluated this way, however, specific performance objectives will be specified and assessed, probably with behaviorally anchored rating scales (Mills, Pace and Peterson, 1988). Multi-rater measurement methods will be used, jury's alphas will be computed to check the reliability of the data, and the results of these measurements will be combined in a constructed indicator for effectiveness. The value of this indicator will be compared with the results scores resulting from the standardised evaluation system. This comparison will enable a rigorous conclusion as to the validity of the results data in this study.

Finally

In this study the different relationships are tested separately. It would be interesting to combine the analyses in one comprehensive model. Currently we are testing a causation model with a Lisrel analysis. Latent variables we distinguish are Project Definition, Project Implementation and Training Effectiveness. A first analysis resulted in a perfect fit (χ^2 = 0.57; df = 41; p = 1.00). But corresponding with the previous results, the covariance matrix of latent variables shows an R^2 of 0.35 only for project implementation and training effectiveness. The R^2 for project definition and training effectiveness is only 0.03. The R^2 for project definition and project implementation is 0.14.

Further analysis of the data showed that due to the skewness of the distribution of many variables, the tests that are performed have limited power. We are currently looking for a more sophisticated combination of parts of the dataset, to achieve more sensitive values of the predictor and criterion variables. We expect that this approach will result in a stronger confirmation of the hypothesised relationships.

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DACUM, TRAINING, AND ISO 9000

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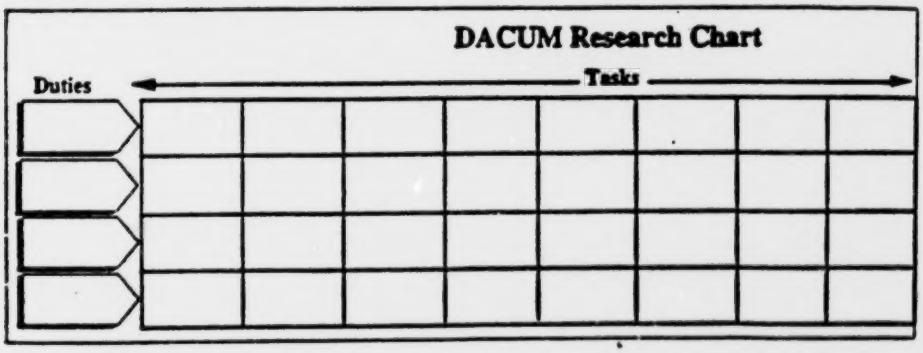
While DACUM has proven to be a widely used and highly effective means of conducting job, occupational, and process analysis, there has been little information available that identifies the knowledge, skills, and attitudes important to DACUM facilitators. Many companies, colleges, and government agencies are requesting relevant, high quality training of their personnel in the DACUM facilitation process. This study describes how the tasks important to DACUM facilitators were identified and verified on an international basis. The tasks identified and their ratings of importance and learning difficulty provide a basis for data-based planning of DACUM facilitator training programs.

Problem Statement

As a manager, trainer, or curriculum specialist working in human resource development, you need to know exactly what is required of your employees at the work site. You need to be able to conduct effective, low cost, and time-efficient occupational analysis which can be used for instructional program planning, training materials development, organizational restructuring, employee recruitment, training needs assessment, meeting ISO 9000 standards, career counseling, job descriptions, competency test development, and other purposes.

The DACUM (Developing a Curriculum) process for occupational analysis involves local men and women with reputations for being the "top performers" at their jobs, working on a short-term committee assignment with a qualified DACUM facilitator. Workers are recruited directly from business and industry. These workers become the Panel of Experts who collectively and cooperatively describe the occupation in the language of the occupation.

The Panel works under the guidance of a trained facilitator for two days to develop the DACUM Research Chart. The chart contains a list of general areas of competence called DUTIES and several TASKS for each duty. Brainstorming techniques are used to obtain the collective expertise and consensus of the committee. As the Panel determines each task, it is written on a card. The cards are attached to the wall in front of the Panel. The completed chart is a graphic profile of the duties and tasks performed by successful workers in the occupation.



It is widely accepted by educators and business-industry trainers that DACUM is a very effective, quick, and low cost method of job/occupational analysis. What was not known was

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what competencies (knowledge, skills, and attitudes) are required of the successful DACUM facilitator. Obtaining a thorough and valid answer to this question is very important and useful to personnel at The Ohio State University and other agencies who seek to provide high quality training for DACUM facilitators. This paper explains how an international DACUM workshop and an international task verification survey was used to answer the question of what competencies are required of successful DACUM facilitators. The findings provide valuable data for planning and conducting DACUM facilitator training programs.

Research Questions

This research sought to answer three major questions:

1. What duties and tasks must be performed by DACUM facilitators?
2. How important is the performance of each task identified to DACUM facilitation?
3. How difficult is it to learn how to perform each identified task?

Methodology

To identify the duties and tasks that must be performed by DACUM facilitators, it was decided to conduct what could be called a "DACUM on DACUM" occupational analysis workshop. At a December, 1994 international meeting of experienced DACUM facilitators, a group of seven persons were selected and convened as a DACUM panel. One person, who had facilitated over 50 workshops, was selected as the facilitator. Four panel members were from the United States and three were from Canada. One person represented human resource development (HRD) in a large Canadian Steel Company.

To obtain rankings of importance and rankings of learning difficulty for each task, a national task verification survey was conducted. Respondents were asked to rate the importance of each task and its learning difficulty on a six-point Likert type scale from 0-5, with zero being the least important/least difficult and five being the greatest importance/extremely difficult. A list of 70 persons known to have received training and to be active as DACUM facilitators were sent the task verification survey in April, 1995. By the time the data was analyzed in September 1995, 42 persons had responded. Means were computed on each task for importance and difficulty.

Findings and Conclusions

By means of the DACUM workshop, eight duty areas and 87 different tasks were identified. The duty areas were as follows:

Duty A =	Market the DACUM Process
Duty B =	Plan the DACUM Workshop
Duty C =	Recruit DACUM Workshop Committee
Duty D =	Orient the DACUM Committee
Duty E =	Manage the Group Process
Duty F =	Facilitate Chart Development
Duty G =	Verify DACUM Results
Duty H =	Coordinate Post-DACUM Activities

Responses to the ranking of tasks on importance and learning difficulty are presented in Table 1. The highest ranking of importance was given to Task D-10, Instruct committee

TABLE 1
DACUM FACILITATOR TASK VERIFICATION REPORT

	Importance of Task	Task Learning Difficulty
N = 42	How important is the performance of this task in your job as a DACUM Facilitator?	How difficult do most DACUM Facilitators find it is to learn to perform this task effectively?
Task Statements	**Mean**	**Mean**
DUTY A: MARKET DACUM PROCESS		
A-1 Present DACUM concepts	4.26	3.00
A-2 Prepare DACUM promotional materials	3.14	2.70
A-3 Establish procedure for providing DACUM services	3.63	2.97
A-4 Promote DACUM services	3.71	3.05
A-5 Consult with potential DACUM customers	4.12	3.31
A-6 Assess customer need for DACUM	4.26	3.54
DUTY B: PLAN THE DACUM WORKSHOP		
B-1 Conduct job analysis literature search	2.80	2.87
B-2 Develop DACUM services agreement	2.98	2.78
B-3 Orient stakeholders (concerned personnel to the DACUM activity)	3.95	3.13
B-4 Develop committee member profile (list of desired characteristics)	3.86	3.00
B-5 Arrange for workshop facilities	3.76	1.85
B-6 Schedule workshop (e.g., dates, times, location)	3.88	2.15
B-7 Arrange for support services (e.g., media, food)	3.31	1.90
B-8 Analyze observer issues (e.g., concerns, benefits)	3.39	2.73

Task Statements	Importance of Task Mean	Task Learning Difficulty Mean
B-9 Select DACUM workshop team	4.14	3.43
B-10 Prepare workshop agenda	3.50	2.02
B-11 Obtain workshop materials	3.71	1.93
B-12 Prepare room for workshop	3.93	1.59
DUTY C: RECRUIT DACUM WORKSHOP COMMITTEE		
C-1 Develop working definition of occupation	4.02	3.17
C-2 Research sources of committee members	3.21	3.05
C-3 Develop expert worker selection criteria	3.93	3.12
C-4 Establish geographical area to be represented	2.78	2.26
C-5 Develop criteria for industry representation	3.55	2.92
C-6 Identify key contact persons	3.72	3.11
C-7 Assess need for supervisors of expert workers representation	3.44	2.81
C-8 Assess need to involve special interest groups	3.20	2.82
C-9 Explain DACUM to employers and prospective committee members	4.18	3.26
C-10 Invite committee members	3.76	2.15
C-11 Assist committee members to obtain employer approval	3.15	2.50
C-12 Accommodate committee members special needs	3.51	2.56
C-13 Confirm participation of DACUM committee members	3.85	2.03
DUTY D: ORIENT THE DACUM COMMITTEE		
D-1 Greet committee members upon arrival	4.24	1.55
D-2 Collect committee members identifying data	3.10	1.84
D-3 Conduct committee member introductions	4.02	1.74
D-4 Facilitate an ice-breaker activity	3.37	2.42

	Task Statements	Importance of Task Mean	Task Learning Difficulty Mean
D-5	Distribute workshop agenda and guidelines	3.74	1.55
D-6	Present rationale for specific DACUM workshop	4.33	2.83
D-7	Present DACUM philosophy	4.26	2.83
D-8	Clarify roles of facilitator, committee members, and curriculum developers	4.40	2.52
D-9	Explain operational guidelines for committee members	4.40	2.50
D-10	Instruct committee members how to compose duty and task statements	4.76	3.93
D-11	Present the DACUM procedural steps	4.43	2.95
D-12	Conduct consensus-seeking exercise	3.44	3.32
D-13	Describe planned follow-up activities	3.85	2.40
DUTY E: MANAGE GROUP PROCESS			
E-1	Orient DACUM recorder	4.05	2.45
E-2	Control group pace	4.31	3.83
E-3	Resolve group conflicts	4.69	4.40
E-4	Maintain group's focus	4.81	4.19
E-5	Enforce rules for observers	4.34	3.10
E-6	Balance committee participation	4.38	3.69
E-7	Reinforce productive behavior/contributions	4.38	3.26
E-8	Deal with disruptive or unproductive committee members	4.64	4.31
E-9	Coordinate hospitality functions	3.19	2.22
E-10	Terminate unproductive session	4.30	3.97

Task Statements		Importance of Task Mean	Task Learning Difficulty Mean
DUTY F: FACILITATE CHART DEVELOPMENT			
F-1	Conduct an occupational review	4.02	3.24
F-2	Conduct brainstorming of the occupation	4.36	3.26
F-3	Elicit duty statements	4.76	4.05
F-4	Obtain consensus on duty statements	4.52	3.83
F-5	Elicit task statements for each duty	4.76	4.10
F-6	Obtain consensus on task statements	4.48	3.93
F-7	Reintroduce unresolved contributions	4.26	3.57
F-8	Elicit list of general knowledge and skills	3.95	2.64
F-9	Elicit list of worker behaviors	3.76	2.66
F-10	Elicit of tools, equipment, supplies, and materials	3.62	2.44
F-11	Elicit of future trends/concerns	3.67	2.71
F-12	Identify list of acronyms and their meanings	3.28	2.23
F-13	Review initial brainstorming lists with the committee	4.02	2.54
F-14	Refine duty and task statements	4.60	3.74
F-15	Sequence task statements	4.12	3.00
F-16	Sequence duty statements	4.17	2.98
F-17	Assess chart using DACUM Quality Standards	4.37	3.39
F-18	Conduct final review of chart	4.33	2.83
F-19	Code task and duty statements	3.95	1.76
F-20	Administer committee evaluation of workshop	3.62	1.64
DUTY G: VERIFY DACUM RESULTS			
G-1	Publish draft of DACUM Research Chart	4.26	2.57
G-2	Develop verification strategy	4.10	3.38
G-3	Develop verification instrument(s)	4.02	3.26
G-4	Select verification respondents	4.00	3.12
G-5	Collect verification data	4.00	3.00

Task Statements	Importance of Task Mean	Task Learning Difficulty Mean
G-6 Analyze verification data	4.17	3.33
G-7 Refine DACUM chart based on verification data	4.34	3.22
G-8 Develop verification report	3.85	3.03
DUTY H: COORDINATE POST-DACUM ACTIVITIES		
H-1 Publish revised DACUM chart	4.44	2.29
H-2 Maintain original DACUM data	3.71	1.73
H-3 Distribute the revised DACUM chart	4.00	1.70
H-4 Acknowledge contributors to the DACUM process	4.49	1.83
H-5 Consult on the application of DACUM results	4.00	3.34

members how to compose duty and task statements (4.76). The lowest importance rating was given to Task C-4, Establish the geographical area to be represented (2.78).

On task learning difficulty, Task E-3, Resolve group conflicts was ranked the highest (4.40) and Task B-12, Prepare room for workshop was ranked the lowest (1.59).

From this study, the writer concludes that there is a significant number of important and difficult to learn tasks required of a DACUM facilitator such that training in the role is essential to success. Secondly, a sufficient data base of identified and verified competencies exists to form a sound basis for planning facilitator training programs and developing supportive training materials.

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